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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,057	09/24/2003	Toshio Hashimoto	242867US6	4005

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ALEXANDRIA, VA 22314

EXAMINER

FLANIGAN, ALLEN J

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 05/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/669,057

Applicant(s)

HASHIMOTO, TOSHIO

Examiner

Allen J. Flanigan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 3-6, 8-10, 13 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 7, 11, 12 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claims 3-6, 8-10, 13, and 15 stand withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 7, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sagal et al. in view of Itoh.

Please see the comments made in regard to the above rejection in the previous Office action.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sagal et al. in view of Itoh as applied to claim 1 above, and further in view of Hendricks et al.

Please see the comments made in regard to the above rejection in the previous Office action.

Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sagal et al. in view of Itoh as applied to claim 11 above, and further in view of Katsui.

Please see the comments made in regard to the above rejection in the previous Office action.

Applicant's arguments filed 2/23/2006 have been fully considered but they are not persuasive.

The main thrust of applicant's arguments appear to be that neither Sagal et al. nor Itoh by itself discloses every limitation of the rejected claims. This argument is moot where the rejection is based on a combination of teachings.

As far as motivation to combine goes, "There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) (The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a prima facie case of obvious was held improper.). The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999).

"In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification." *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972). Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an

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implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art.” In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) . . . The strongest rationale for combining references is a recognition, expressly or impliedly in the prior art or drawn from a convincing line of reasoning based on established scientific principles or legal precedent, that some advantage or expected beneficial result would have been produced by their combination. In re Sernaker, 702 F.2d 989, 994-95, 217 USPQ 1, 5-6 (Fed. Cir. 1983).”¹

Itoh provides ample motivation to provide capillary grooves in the heat pipe of Sagal et al. Itoh clearly points out at least one advantage or beneficial result of such grooves (“since the [capillary grooves] moves the condensed liquid in slanted and parallel directions as mentioned above the condensed liquid is distributed over the entire heated portion whereby the heat carrier [i.e. working fluid] is again heated and efficiently evaporated”. It would be readily apparent to one of ordinary skill in the art that such thorough wetting of heat absorbing surfaces would be advantageous in virtually any heat pipe. Moreover, it is universally understood in the art of heat pipes that wicking means or capillary means such as grooves, mesh wicks, etc. can serve as an alternative to (or enhancement of) the force of gravity to transport condensed liquid to the evaporator section of a heat pipe. The basic operating principle of

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a heat pipe involves the physical transport of a working fluid between heat absorbing and rejecting locations, with condensed vapor in the form of liquid requiring transport to the heat absorbing site, and evaporated working fluid requiring transport to the heat rejecting site. In simple heat pipes (lacking mechanical liquid pumps), gravity and capillary action are basically the only two forces available to achieve such transport. Thus, as Meyer IV et al. points out, "capillary wicks have generally been used to permit heat pipes to operate independently of gravity" (see lines 20-28 of column 1 of Meyer IV et al.). The basic operation of heat pipes, and the functions and advantages of capillary elements, is knowledge generally available to those skilled in the art. Thus, even if Itoh arguably can be said to fail to implicitly teach the advantage of capillaries in permitting heat pipes to operate independent of gravity, the knowledge generally available to those skilled in the art pointed out above provides sufficient motivation for adapting such a well known feature in the heat pipe of Sagal et al. It is not necessary for a finding of obviousness that one reference contain a specific suggestion to look to the other reference for improvement, teaching, or possible combination.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply

¹ MPEP 2143, 2144.

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is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen J. Flanigan whose telephone number is (571) 272-4910. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene can be reached on (571) 272-4930. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, reading "allen J. Flanigan". The signature is written in a cursive, flowing style.

Allen J. Flanigan
Primary Examiner
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AJF